

Serial No. 10/788,940

AMENDMENT OF THE CLAIMS

Please cancel claims 1 - 36 and add new claims 37 - 41.

1-36. (Canceled)

37. (New) A method of optimizing the therapeutic potency of a parent polypeptide that binds a particular ligand comprising:

(a) changing one or more amino acids in the parent polypeptide to produce one or more different progeny polypeptides;

(b) measuring the association rate for the binding of said one or more different progeny polypeptides to a ligand;

(c) comparing the association rate and therapeutic potency of the progeny polypeptide to the parent polypeptide;

(d) identifying a progeny polypeptide exhibiting a higher association rate for binding to said ligand, wherein the higher association rate is at least $8 \times 10^7 \text{ M}^{-1}\text{s}^{-1}$ and said higher association rate results in improved therapeutic potency.

38. (New) The method of Claim 37 wherein said association rate for said progeny polypeptide increases by at least 4-fold.

39. (New) The method of Claim 37 wherein said association rate is indicated by k_{on} .

40. (New) The method of Claim 37 wherein said parent polypeptide is an enzyme or functional fragment thereof.

41. (New) The method of Claim 40 wherein said enzyme is butyrylcholinesterase or a functional fragment thereof.

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RESTRICTION REQUIREMENT UNDER 35 U.S.C. §121

The Examiner has entered a restriction requirement dividing the claims into seventy seven (77) groups. Applicant hereby elects Group 4, Claims 5-15, and 17-22, with linking Claims 4 and 16, without traverse. Group 4 is drawn to a method for determining the therapeutic potency of a binding polypeptide, the binding polypeptide is a specific enzyme or functional fragment thereof, classified in Class 435, subclass 7.6.